

REMARKS

Introduction

Claims 1-20 were pending in the above-identified patent application.

Claims 1-20 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Donlin et al. U.S. Patent Application Publication No. US 2005/0021749 A1 (hereinafter "Donlin").

The drawings have been objected to for failing to comply with 37 C.F.R. §§ 1.84(i) and 1.84(p).

The Examiner's rejections and objections are respectfully traversed.

The Drawings

The Examiner has objected to the drawings as failing to comply with 37 C.F.R. §§ 1.84(i) and 1.84(p). Accordingly, applicant is submitting herewith formal drawings to be substituted for the informal drawings previously filed with this application. Applicant respectfully requests that the objections to the drawings be withdrawn.

The Claims

Claims 1-20 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Donlin. The Examiner's rejections are respectfully traversed.

Applicant's invention, as defined by claims 1-20, is directed to improving the connectivity between signaling input/output (I/O) and an intellectual property (IP) block in a programmable logic resource. A programmable logic resource receives input data via an I/O port. This data is decoded in an I/O buffer and sent as input to a crossbar switch that can be configured to send the data to any one of the data ports in the IP block. (See also applicant's specification, pp. 3-4, ¶¶ 7-9).

Contrary to the Examiner's contentions, applicant respectfully submits that Donlin does not show or suggest the following features of applicant's claims:

(1) "a crossbar switch that receives the plurality of outputs from the I/O buffer and generates a plurality of outputs, wherein the crossbar switch is configured to sent at least one of the plurality of outputs from the I/O buffer to a corresponding one of the plurality of outputs of the crossbar switch" as recited in applicant's independent claim 1 (emphasis added),

(2) "circuitry configured to send data from at least one of the plurality of I/O ports to a corresponding one of a plurality of data ports in an intellectual property block" as recited in applicant's independent claim 9 (emphasis added), and

(3) "configuring a crossbar switch to route the signal from the nearest available I/O port to a corresponding data port in the intellectual property block" as recited in applicant's independent claim 14 (emphasis added).

Instead, Donlin describes a method and apparatus for using serial transceivers to communicate within a programmable logic device (Donlin, Abstract, emphasis added). As shown and described in connection with FIG. 1, a field programmable gate array (FPGA) includes configurable logic blocks (CLBs) 107, memory 111, and programmable I/O blocks (IOBs) 106B.

"Programmable IOBs 106B are configured to provide input to, and receive output from, one or more of CLBs 107" (Donlin, FIG. 1; p. 2, ¶ 16). As shown and described in connection with FIG. 4, the FPGA includes a plurality of modules 402A-D each having a transceiver 404A-D for communicating among the modules. Each transceiver 404A-D is coupled to an I/O pin 408A-D for communication with external devices or systems (such as a network of computers). Each transceiver 404A-D is coupled to a crossbar switch 406 for programmable interconnection among modules 402A-D (i.e., "any one of modules 402 can be coupled to any other of modules 402 through crossbar switch 406") (Donlin, p. 3, ¶¶ 32-33, emphasis added).

In Donlin, data from an external device is communicated in the FPGA from an I/O pin directly to a transceiver in a dedicated module. Data from any of the modules can be communicated to another module via the crossbar switch. Unlike applicant's claimed approach, Donlin does not show or suggest communicating data from an I/O pin to a crossbar switch or other circuitry for output to a data port in an intellectual property block as recited in applicant's independent claims 1, 9, and 14.

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For at the foregoing reasons, applicant respectfully submits that independent claims 1, 9, and 14 are allowable over Donlin. Claims 2-8, 10-13, and 15-20, which depend from independent claims 1, 9, and 14, respectively, are therefore also allowable over Donlin.

Conclusion

Applicant respectfully submits that this application is now in condition for allowance. Accordingly, prompt consideration and allowance of this application are respectfully requested.

Respectfully Submitted,

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